IN THE CLAIMS:

Please amend the claims as follows:

1. (currently amended) An engine cogeneration system in which at least one ~~a~~ power generator is driven by a plurality of engines to supply electric power, and at the same time, at least one of exhaust heat and coolant heat from said plurality of engines is recovered to supply the heat to a heat load, wherein ~~at least one of a number of engine to be driven and~~ a combustion mode of at least one of the plurality of engines ~~said engine~~ is controlled to meet a demanded heat load and power load ~~to be demanded~~.

2. (canceled)

3. (currently amended) The engine cogeneration system according to claim 1, wherein the combustion mode is any of a spark ignition combustion mode, a ~~an~~ retard of spark ignition combustion mode, and a homogeneous charge compression and ignition combustion mode.

4. (previously presented) The engine cogeneration system according to claim 3, wherein in the case where said combustion mode of any of said plurality of the engines includes at least said homogeneous charge compression and ignition combustion mode, when the engine is switched to said homogeneous charge compression and ignition combustion mode, the switching is made under

the condition that the combustion mode before switching must be said spark ignition combustion mode.

5. (previously presented) The engine cogeneration system according to claim 3, wherein at least one control of a number of engines to be driven and a combustion mode of said engine is executed with the consideration that said engine including the homogeneous charge compression and ignition combustion mode is difficult to be driven at said homogeneous charge compression and ignition combustion mode.

6. (original) The engine cogeneration system according to claim 1, which is connected to a commercial power source so that when an amount of power supplied from said power generator to said power load is lacking, power is supplied from said commercial power source.

7. (original) The engine cogeneration system according to claim 1, which comprises a storage for storing an excess power, so that when an amount of power supplied from said power generator to said power load is excess, the excess power can be stored.

8. (original) The engine cogeneration system according to claim 1, which is configured so that when an amount of power supplied from said power

generator to said power load is excess, the excess amount of the power is converted into heat which is supplied to said heat load, and which is stored.

9-15. (canceled)

16. (new) The engine cogeneration system according to claim 1, wherein the number of engines to be driven is controlled to meet a demanded heat load and power load.

17. (new) The engine cogeneration system according to claim 1, wherein at least two of the plurality of engines are operated to meet the demanded heat load and power load, and the combustion mode of each operating engine is selected to minimize a difference between a ratio of total heat production and total power production from the engines, and a ratio of the demanded heat load to a demanded power load.

18. (new) A method of operating an engine cogeneration system comprising at least one power generator driven by a plurality of engines to supply electric power, said plurality of engines at the same time supplying heat to a heat load recovered from at least one of exhaust heat and coolant heat, comprising the steps of:

identifying a demanded heat load and power load;

determining an engine operating scheme in which a number of the plurality of engines to be operated and a combustion mode of each of the engines to be operated will meet the demanded heat load and power load while minimizing a difference between a ratio of total heat production and total power production from the operating engines, and a ratio of the demanded heat load to a demanded power load; and

controlling the operation of the number and combustion mode of said engines in accordance with the determined engine operating scheme.

19. The cogeneration system operating method of claim 18, wherein the combustion mode of each of the operating engines is one of a spark ignition combustion mode, a retard of spark ignition combustion mode, and a homogeneous charge compression and ignition combustion mode.